AGRICULTURAL ENGINEERING DEPARTMENT

NEWS

UNIVERSITY OF ILLINOIS
URBANA

June 12, 1959

A Personality

Acting as news hawk in the department during May was Dr. Roger R. Yoerger. Roger is completing his first year as an Illini, coming last June from Pennsylvania State University. His primary duties are in farm power and machinery. A native of Iowa, he holds three earned degrees from Iowa State University, including the Doctor of Philosophy degree, with a split major between Agricultural Engineering and Theoretical and Applied Mechanics. He is a registered professional engineer in both Iowa and Pennsylvania; he stands 6'4" and weighs something in excess of 250 pounds. Roger is married and has two girl friends: Barbara, his wife, and daughter, Karen, age 3. The Yoergers live in a new home on Kirby Road in Champaign.

Farm Structures Research Activity

The farm structures program is divided into two broad areas: (1) materials and methods and (2) livestock feeding and shelter. Those making up the teams are Ed Hansen, Jim Curtis, Art Muehling, Keith Hinchcliff, Gene Shove, Errol Rodda, and Don Jedele.

Under the first heading is a method of fabricating metal frameless roofs from corrugated metal without the usual framing members. This development has had as its objective a low-cost roof for farm building with spans up to 16 feet. Testing and modifications are under way on a light-weight aluminum roof frame for small buildings which might be readily factory-fabricated. Roof coverings of black polyethylene material show a considerable amount of promise for low-cost temporary shelters. Progress is being made in developing a design procedure for nailed-glued plywood gussets for wood rigid-frame construction. Testing equipment is now available for handling full-scale structural frames up to 40 feet in width. Design is under way on a reinforced concrete rigid frame for farm buildings. Full-scale frames will be built and tested during the summer.

Falling in the second category, dealing with livestock feeding and shelter, is a highly automated system of swine finishing that has been designed, constructed, and in operation for more than a year. Automatic equipment provides for mixing the rations, conveying feed pneumatically to feeders, supplying water, and cleaning the feeding floor with water jets. An experimental automatic self-feeding system for dairy cattle is also being installed on the University Dairy Farm. The system will provide for blending and conveying different rations composed of roughages and concentrates into a self-feeder.

Environmental control studies are being conducted to determine the effects of temperature, humidity, and air movement on the gain performance of small pigs. An environmental chamber provides for control of variables. Continued work will involve comparison of performance of pigs actually farrowed in a new farrowing house where methods of controlled environment will be evaluated.

Teamwork

In earlier newsletters mention was made of the splendid teamwork that exists among various areas making up the Department of Agricultural Engineering. Separate areas make for administrative convenience and promote esprit de corps; yet, when a project is presented that cuts across area lines, effective teamwork is forthcoming. This same thing exists at the college level. To an increasing extent, research activity is centered about research teams made up of specialists from various disciplines. For example, in the development of the mechanized phases of livestock production and management, not only is the agricultural engineer involved, but highly trained workers from other disciplines as well. For maximum results the closest cooperation with animal and dairy scientists is required. Frequently agricultural economists and the statistician make important contributions. Fortunately, in our College of Agriculture this cooperation is readily forthcoming; teamwork is not restricted to the realm of theory, but actually exists. This approach produces results, and those of us in the Department of Agricultural Engineering are proud to be contributing members to several research teams.

Here and There

David Johnson, February '59, is serving with the armed services at Fort Leonard Wood, Missouri. David, from Cherry Valley, made an outstanding record as an undergraduate student in Agricultural Engineering and climaxed his academic career by having his name inscribed on Bronze Tablet.

Ronald C. Carver, February '58, is now in the Research Department of the John Deere Tractor Works, Waterloo, Iowa. He visited the department last month. Ronald's address is 131 Morgan Road, Waterloo, Iowa.

Robert Rowe, '49, manager of structures and engineering for the Doane Agricultural Service, visited the department on May 14. Robert's home address is 1301 Tree Lane Avenue, St. Louis 19.

The Engineering Experiment Station is publishing a report of research in engineering at the University of Illinois during 1957-58, and Agricultural Engineering has a 12-page section. Reprints of the Agricultural Engineering Section will be available within the next two or three weeks and will be distributed without charge as long as the limited supply lasts. A postal card request will bring a copy your way.

Professor Harold Beaty, executive secretary of the Illinois Farm Electrification Council, announces a workshop on electric controls to be held in the department during September. Also, arrangements are nearing completion for the third Council-sponsored Lighting Clinic, to be held on consecutive days next October in Carbondale, Urbana, and Dixon.

Frank B. Lanham